



Instrument Transformers

# RITZ INSTRUMENT TRANSFORMERS, INC.

## Current Transformers

### DCAW and DCAB

#### General Description

The DCAW sub-miniature window-type current transformer is designed for use with watt-hour meters. It is suitable for both indoor and outdoor service. The transformer meets all applicable IEEE, ANSI, and NEMA standards. A wide variety of accessories and ratings allows for maximum versatility. The transformer is normally ordered with a primary bar assembly by specifying the appropriate DCAB catalog number or a bar-kit can be ordered for addition to the DCAW in the field.

#### Construction

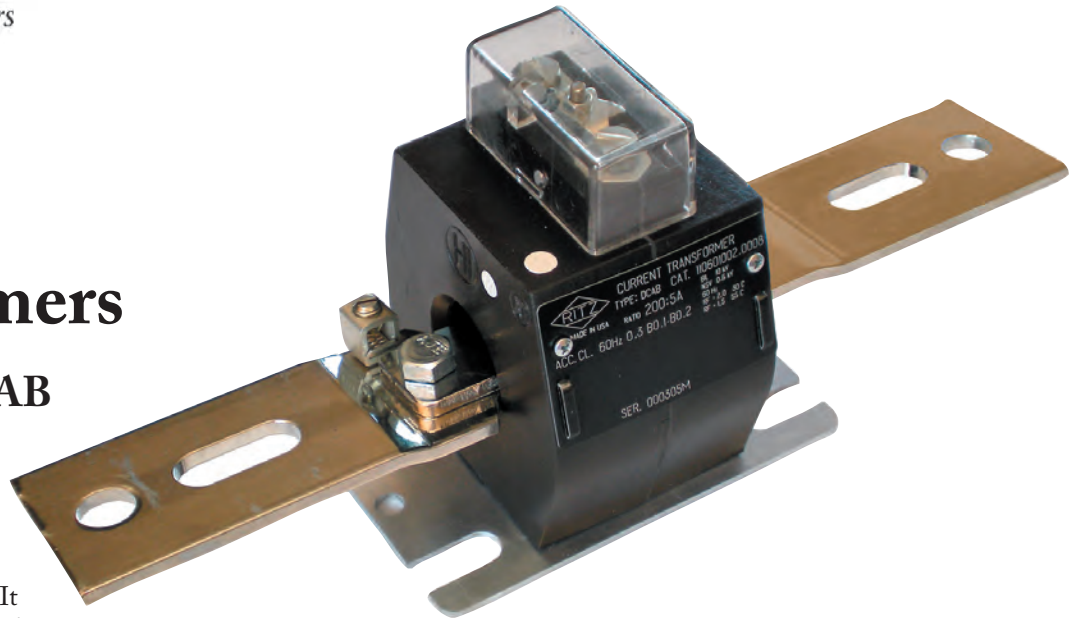
The ring type core is wound from high quality grain oriented silicon steel which has been annealed. The secondary winding is accomplished with heavy enameled copper wire evenly distributed around the core. The assembly is then encapsulated in a mold using a polyurethane resin specifically formulated for optimal electrical insulation and weatherproof characteristics.

#### Secondary Terminals and Cover

Secondary terminals are tinned bronze compression type with a large 0.29" (7.5 mm) diameter hole. A bronze pivoting short circuit device is an integral part of the secondary terminal arrangement. The short circuit device interferes with the proper placement of the clear polycarbonate cover when the shorting device is in the shorted position. The terminal cover is designed to accept a sealing device.

#### Base Plates

The transformer can be ordered without base plate or with industry standard base plates of marine-grade aluminum.



#### Primary Bar

Normally standard but also available as an option, the primary bar-kit consists of two tinned copper bars that have a tapered tang and off-set so that when assembled in the transformer window the two terminals are on a level plane and supported in the middle of the window by the shoulders of the tang. It can be rotated, as needed, to any orientation. A potential connector is installed on the primary conductor assembly by default on the H1 side of the CT, however, the potential connector can be moved to the H2 side in the field.

#### Test Reports

Test reports according to the latest revisions of IEEE C57.13 are stored electronically at time of test and can be sent via email in customer preferred formats at time of shipment.

#### High-Accuracy Options

The DCAW and DCAB designs are available with high-accuracy 0.15 class ratings. These ratings offer the user the ability to use fewer standard ratios, while, in most cases, improving the accuracy performance of the metering installation. Please see *Ritz Technical Bulletin 103 "Applying 600V High-Accuracy CTs for Revenue Metering Applications"* for more information.



| TYPE DCAW                            |                 |                |                |  |       |
|--------------------------------------|-----------------|----------------|----------------|--|-------|
| CURRENT RATING<br>PRI:SEC<br>AMPERES | CATALOG NUMBERS |                |                | CONTINUOUS THERMAL CURRENT RATING FACTOR |       |
|                                      | NO BASE         | LOW BASE       | HIGH BASE      | 30 °C                                    | 55 °C |
|                                      |                 |                |                |  |       |
| 100:5                                | 110601001.0374  | 110601002.0381 | 110601003.0388 | 4.0                                      | 3.0   |
| 200:5                                | 110601001.0375  | 110601002.0382 | 110601003.0389 | 2.0                                      | 1.5   |
| 300:5                                | 110601001.0376  | 110601002.0383 | 110601003.0390 | 2.0                                      | 1.5   |
| 400:5                                | 110601001.0377  | 110601002.0384 | 110601003.0391 | 2.0                                      | 1.5   |
| 500:5                                | 110601001.0378  | 110601002.0385 | 110601003.0392 | 2.0                                      | 1.5   |
| 600:5                                | 110601001.0379  | 110601002.0386 | 110601003.0393 | 2.0                                      | 1.5   |
| 800:5                                | 110601001.0380  | 110601002.0387 | 110601003.0394 | 1.5                                      | 1.2   |

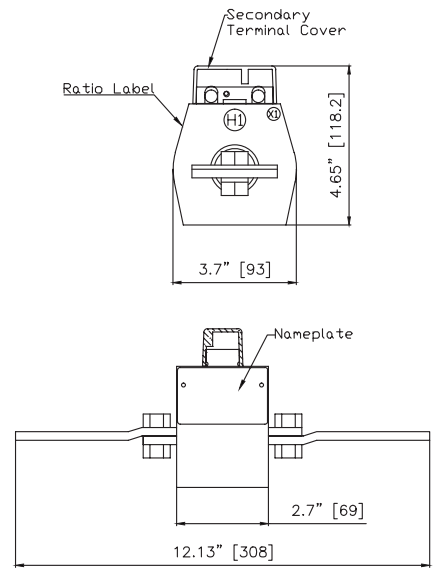
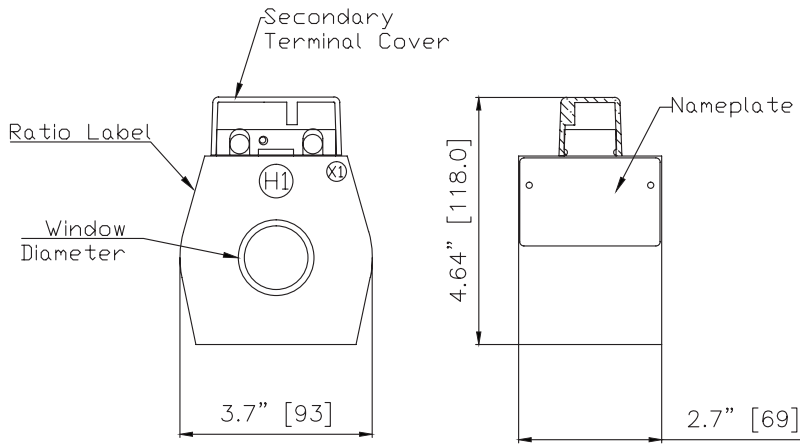
| TYPE DCAB                            |                 |                |                |  |       |
|--------------------------------------|-----------------|----------------|----------------|--|-------|
| CURRENT RATING<br>PRI:SEC<br>AMPERES | CATALOG NUMBERS |                |                | CONTINUOUS THERMAL CURRENT RATING FACTOR |       |
|                                      | NO BASE         | LOW BASE       | HIGH BASE      | 30 °C                                    | 55 °C |
|                                      |                 |                |                |  |       |
| 100:5                                | 110601001.0001  | 110601002.0007 | 110601003.0013 | 4.0                                      | 3.0   |
| 200:5                                | 110601001.0002  | 110601002.0008 | 110601003.0014 | 2.0                                      | 1.5   |
| 300:5                                | 110601001.0003  | 110601002.0009 | 110601003.0015 | 2.0                                      | 1.5   |
| 400:5                                | 110601001.0004  | 110601002.0010 | 110601003.0016 | 2.0                                      | 1.5   |
| 500:5                                | 110601001.0237  | 110601002.0238 | 110601003.0239 | 2.0                                      | 1.5   |
| 600:5                                | 110601001.0005  | 110601002.0011 | 110601003.0017 | 2.0                                      | 1.5   |
| 800:5                                | 110601001.0006  | 110601002.0012 | 110601003.0018 | 1.5                                      | 1.2   |

| CURRENT RATING<br>PRI:SEC<br>AMPERES | IEEE METER ACCURACY CLASS, 60 HZ |       |       |
|--------------------------------------|----------------------------------|-------|-------|
|                                      | B 0.1                            | B 0.2 | B 0.5 |
| 100:5                                | 0.3                              | -     | -     |
| 200:5                                | 0.3                              | 0.3   | -     |
| 300:5                                | 0.3                              | 0.3   | 0.6   |
| 400:5                                | 0.3                              | 0.3   | 0.6   |
| 500:5                                | 0.3                              | 0.3   | 0.6   |
| 600:5                                | 0.3                              | 0.3   | 0.3   |
| 800:5                                | 0.3                              | 0.3   | 0.3   |

| TYPE DCAW<br>HIGH ACCURACY           |                 |                |                |  |       |
|--------------------------------------|-----------------|----------------|----------------|--|-------|
| CURRENT RATING<br>PRI:SEC<br>AMPERES | CATALOG NUMBERS |                |                | CONTINUOUS THERMAL CURRENT RATING FACTOR |       |
|                                      | NO BASE         | LOW BASE       | HIGH BASE      | 30 °C                                    | 55 °C |
|                                      |                 |                |                |  |       |
| 400:5                                | 110601001.0395  | 110601002.0399 | 110601003.0403 | 2.0                                      | 1.5   |
| 500:5                                | 110601001.0396  | 110601002.0400 | 110601003.0404 | 2.0                                      | 1.5   |
| 600:5                                | 110601001.0397  | 110601002.0401 | 110601003.0405 | 2.0                                      | 1.5   |
| 800:5                                | 110601001.0398  | 110601002.0402 | 110601003.0406 | 1.5                                      | 1.2   |

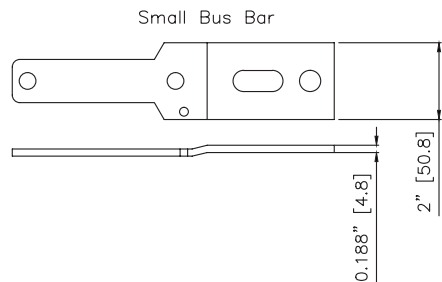
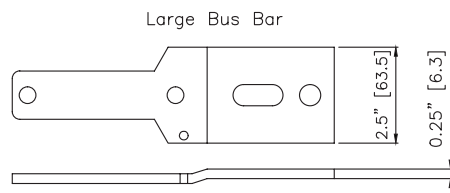
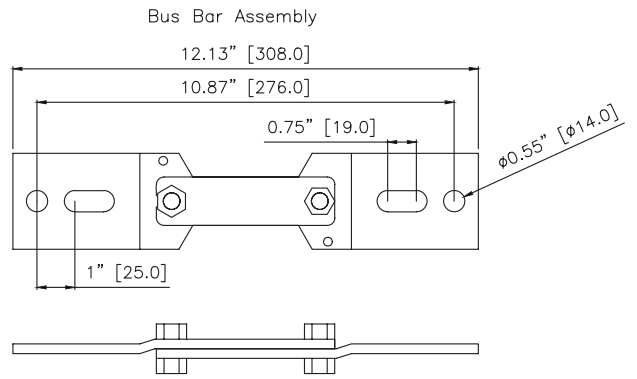
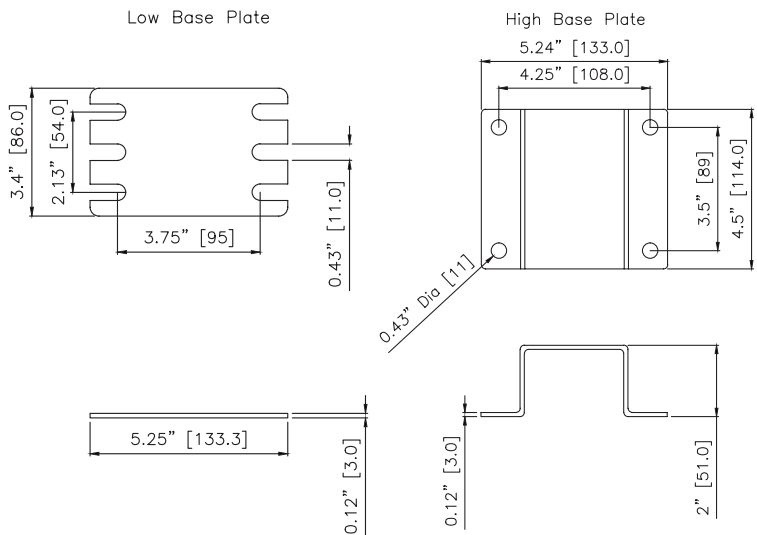
| TYPE DCAB<br>HIGH ACCURACY           |                 |                |                |  |       |
|--------------------------------------|-----------------|----------------|----------------|--|-------|
| CURRENT RATING<br>PRI:SEC<br>AMPERES | CATALOG NUMBERS |                |                | CONTINUOUS THERMAL CURRENT RATING FACTOR |       |
|                                      | NO BASE         | LOW BASE       | HIGH BASE      | 30 °C                                    | 55 °C |
|                                      |                 |                |                |  |       |
| 400:5                                | 110601001.0148  | 110601002.0151 | 110601003.0154 | 2.0                                      | 1.5   |
| 500:5                                | 110601001.0240  | 110601002.0241 | 110601003.0242 | 2.0                                      | 1.5   |
| 600:5                                | 110601001.0149  | 110601002.0152 | 110601003.0155 | 2.0                                      | 1.5   |
| 800:5                                | 110601001.0150  | 110601002.0153 | 110601003.0156 | 1.5                                      | 1.2   |

| CURRENT RATING<br>PRI:SEC<br>AMPERES | IEEE METER ACCURACY CLASS, 60 HZ |       |
|--------------------------------------|----------------------------------|-------|
|                                      | B 0.1                            | B 0.2 |
| 400:5                                | 0.15                             | -     |
| 500:5                                | 0.15                             | -     |
| 600:5                                | 0.15                             | -     |
| 800:5                                | 0.15                             | 0.15  |



| Ratio | Window Diameter | Bus Bar Assembly |
|-------|-----------------|------------------|
| 100:5 | 1.22" (31mm)    | Small Bus Bar    |
| 200:5 | 1.22" (31mm)    | Small Bus Bar    |
| 300:5 | 1.22" (31mm)    | Small Bus Bar    |
| 400:5 | 1.4" (35.6mm)   | Large Bus Bar    |
| 500:5 | 1.4" (35.6mm)   | Large Bus Bar    |
| 600:5 | 1.4" (35.6mm)   | Large Bus Bar    |
| 800:5 | 1.4" (35.6mm)   | Large Bus Bar    |

|                     |                 |
|---------------------|-----------------|
| Voltage Class       | 600 V           |
| Basic Impulse Level | 10 kV           |
| Service Rating      | Indoor/ Outdoor |
| Weight              | 5 ~ 7 lbs.      |



Comments:  
 1. Dimensions shown in English [millimeters].  
 2. Material: Aluminum 5052-H32 or equivalent.



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